RESTORATION AND MANAGEMENT OF DECLINING HABITATS

(Acre)
Code 643

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

Restoring and conserving rare or declining native vegetated communities and associated wildlife species.

II. Purpose

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- Restore land or aquatic habitats degraded by human activity.
- Provide habitat for rare and declining wildlife species by restoring and conserving native plant communities.
- Increase native plant community diversity.
- Management of unique or declining native habitats.

Note: NRCS uses the term "wildlife" to include all animals, terrestrial and aquatic.

III. Conditions Where Practice Applies

On any landscape which once supported or currently supports the habitat to be restored or managed.

IV. Federal, State, and Local Laws

Users of this standard should be aware of potentially applicable federal, state and local laws, rules, regulations or permit requirements governing restoration and management of declining habitats. This standard does not contain the text of federal, state, or local laws.

V. Criteria

A. General Criteria Applicable to All Purposes

- Planting and management methods used will be designed to protect the soil resource from erosion.
- Vegetative manipulations to restore plant and/or animal diversity can be accomplished by prescribed burning or mechanical, biological or chemical methods, or a combination of the four. Where feasible prescribed burning will be utilized instead of mowing.
- Management measures must be provided to control invasive species and noxious weeds in order to comply with state noxious weed laws.
- To benefit insect food sources for grassland nesting birds, spraying or other control of noxious weeds will be done on a "spot" basis to protect forbs and legumes that benefit native pollinators and other wildlife.
- Except during the establishment period, management practices and activities are not to disturb cover during the primary nesting period of May 15-July15. Exceptions may be granted for periodic maintenance when necessary to maintain the health of the plant community.
- Rotate periodic planned management or other treatments throughout the restored/managed area.

- Site preparation shall be sufficient for establishment and growth of selected species.

- Timing and use of equipment will be appropriate for the site and soil conditions.

B. Criteria for Enhancement of Existing Degraded Habitats

For sites that are not currently cultivated and still exhibit remnant characteristics of the desired habitat type, it is often best to attempt restoration and enhancement through management techniques such as prescribed burning, brush and weed control, and interplanting with desired species. Refer to the maintenance recommendation section of each habitat type.

C. Criteria for Tallgrass Prairie Restoration on Sites with no Prairie Remnants

1. Local Genotypes

Use of local genotypes is the first preference because plants that come from on or near the restoration site will be best adapted to the conditions of the site. The Wisconsin Crop Improvement Association has established certification standards for Native Species produced in Wisconsin. These standards allow seed to be Source-Identified. In other words, the geographic location where the seed source originated is identified. This can be very useful when selecting seed that originated near the restoration site. It is important to use local genotypes because introducing species from other areas may contaminate the local gene pool.

The use of locally harvested seed is encouraged in instances where an existing native prairie is near a planting site. It may not be possible to test this seed for germination or purity in order to determine PLS. In this case, follow the requirements for seeding untested local genotype seed.

Seed must be source identified from a location in Wisconsin, Minnesota, Iowa, or Illinois. Named varieties are not approved for this practice. Species with a range restriction should only be planted within the indicated range.

Refer to Agronomy Technical Note 5 and the following criteria to develop the seed mixture.

Seed Selection - Seeding rates are based on pounds or ounces of *Pure Live Seed (PLS)* per acre. It is desirable that seed be tested for germination and purity.

a. For *dry, dry-mesic,* and *mesic sites*: For these mixtures select: 5 grasses and or sedges (a minimum total of 64 oz. (4 lb.)/acre of grass/sedge seed, each grass/sedge to be seeded at a minimum of 4 oz./acre), no more than one pound PLS/acre of switchgrass will count toward meeting the 4 pound minimum requirement.

   In addition, the mixture must contain a minimum of 10 forbs, including 1 legume. Forbs must be seeded at a minimum of 4 seeds per square foot. This guideline should result in a mixture containing a minimum of 30 seeds per square foot. A single specie may not be credited for more than 1 seed per square foot towards meeting the minimum requirement. For Wet-Mesic and Wet sites seeding of 10 species of forbs/legumes at the rates shown on the site list is acceptable.

b. For *wet-mesic* and *wet sites*: Seed mixtures may be developed from Agronomy Technical Note 5 using the following guidelines. For seeding at these sites, select 15 species, with a minimum of 10 from forbs and 5 from grass/sedge/rush. Use the seeding rates in the Technical Note and apply a minimum of 16 oz. PLS per acre.

2. Requirements for use of untested local genotype seed

In order to obtain the highest quality seed possible, the harvesting of seeds must be supervised by someone experienced in native seed harvest.

a. All seed will be cleaned.

b. Seed will be separated and stored by specie so that it can be mixed later at the planned rates

c. A planting plan will be developed and seed will be planted based on the following requirements:

d. Seed will be planted at a minimum seeding rate of 50 seeds per square foot. Limit seeding rates so that one specie does not comprise more than 20% of the seeds/square foot. However, if a specie is seeded at a seeding rate so that its number of seeds planted per square foot makes up more than 20% of the total planted seeds per square foot, then, only the seeds per square foot that fall within the 20% requirement will be counted toward the total required number of seeds per square foot. (For Wet-Mesic and Wet sites double the seeding rates shown on the site list to meet the requirements of 3a and 3b.)

1) At least 25 seeds per square foot must be native grasses or sedges

2) At least 5 species of grasses and 15 species of forbs and legumes must be seeded

3) A list of the species planted and the ounces of each specie planted must be provided to the NRCS office.

RECOMMENDED SEEDING DATES		
	Spring Seeding	Fall Seeding
Northern Zone	Thaw - July 15	October 8 – snow cover
Central Zone	Thaw - June 30	October 15 – snow cover
Southern Zone	Thaw - June 30	October 22 – snow cover

3. Nurse Crops and Temporary Covers

Nurse crops can be used to reduce the amount of erosion on critical sites. Canada wild rye, *Elymus canadensis*, can be seeded at a rate of 1.0 - 2.0 pounds PLS/Acre, Side-oats grama, *Bouteloua curtipendula*, can be seeded at a rate of 1.0 - 2.0 pounds PLS/Acre, with other seed mixtures.

When seedbed preparation is conducted in the year previous to seeding, Sudangrass or Oats may be seeded as a temporary cover. Both crops will winter kill and the prairie seeds can be drilled directly into this crop residue.

Seed Sudangrass at 25 pounds/acre or Oats at 1.5 bushels/acre.

D. Criteria for Oak Savanna Restoration

Grasses and Forbs: Follow the Criteria for Tallgrass Prairie restoration. Additional plants may be selected from the UW Herbarium list for Savanna plants or from Savanna plant listings in Curtis, Vegetation of Wisconsin.

Trees: This Table shows the tree planting rate for Oak Savanna Restoration.

Prairie Type	Tree Planting Rate (Trees/acre)
Dry	130-150
Dry Mesic	250
Mesic	250
Wet Mesic	250

The tree layer of the savanna will as a minimum be a mixture of *Carya ovata* (Shagbark Hickory), *Quercus alba* (White Oak), *Quercus macrocarpa* (Burr Oak) and *Quercus velutina* (Black Oak). At least 50% of the trees planted will be *Quercus macrocarpa*. On lower wetter sites *Quercus bicolor* (Swamp White Oak) may be substituted for *Quercus alba* and *Quercus macrocarpa*. Additional trees on the UW-Herbarium Savanna list or in Curtis, Vegetation of Wisconsin may be planted. Trees will be planted immediately after seeding of the prairie. Plant trees in a pattern that will allow for mowing to control weeds.

Do not burn the area of the savanna that contains the oaks for a minimum of five years after planting.

VI. Considerations

In many cases threatened and endangered species or species of concern will benefit from conservation of declining habitats. Follow-up habitat assessments shall be performed on a regular basis.

Haying and grazing may be planned and managed as necessary to achieve and maintain the intended purpose.

VII. Plans and Specifications

Specifications for this practice shall be prepared for each habitat type. Specifications shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

VIII. Operation and Maintenance

Management will primarily consist of controlling invasion by non-native plants. This may require mowing, burning, spraying, cutting or managed grazing.

IX. References

USDA, NRCS Wisconsin Agronomy Technical Note 5.

Wisconsin Crop Improvement Association, website: *http://www.wisc.edu/wcia/seedbook.html*.

UW Herbarium List for Savanna Plants, website: *http://www.botany.wisc.edu/wisflora/*.

University of Wisconsin Press, "Vegetation of Wisconsin," Curtis, John T., 1959.